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ABSTRACT

Rural schools, which comprise 67% of the nation's school systems, experience distinct educational environments and have unique strengths and weaknesses. Quality research to assess the effectiveness of rural education has been hampered by inconsistently applied definitions of "rural" and inadequate data to compare rural and urban districts. A study conducted in 1984 by the National Rural Education Research Consortium was the first comprehensive national effort to derive an empirical data base for rural education research priorities. This synthesis of the larger study reviews methodology, lists the nine resulting research priority clusters and the questions related to each cluster, and outlines implications for federal government, state agencies, higher education institutions, rural schools and students, and data dissemination. The nine rank-ordered research clusters are listed as rural school effectiveness, governance and finance, staff training needs (technology as a resource), teaching styles and incentives, field-based personnel preparation, preservice preparation, personnel recruitment and retention, school-community interaction, and rural versus non-rural factors. (LFL)

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# Establishing A National Rural Education Research Agenda

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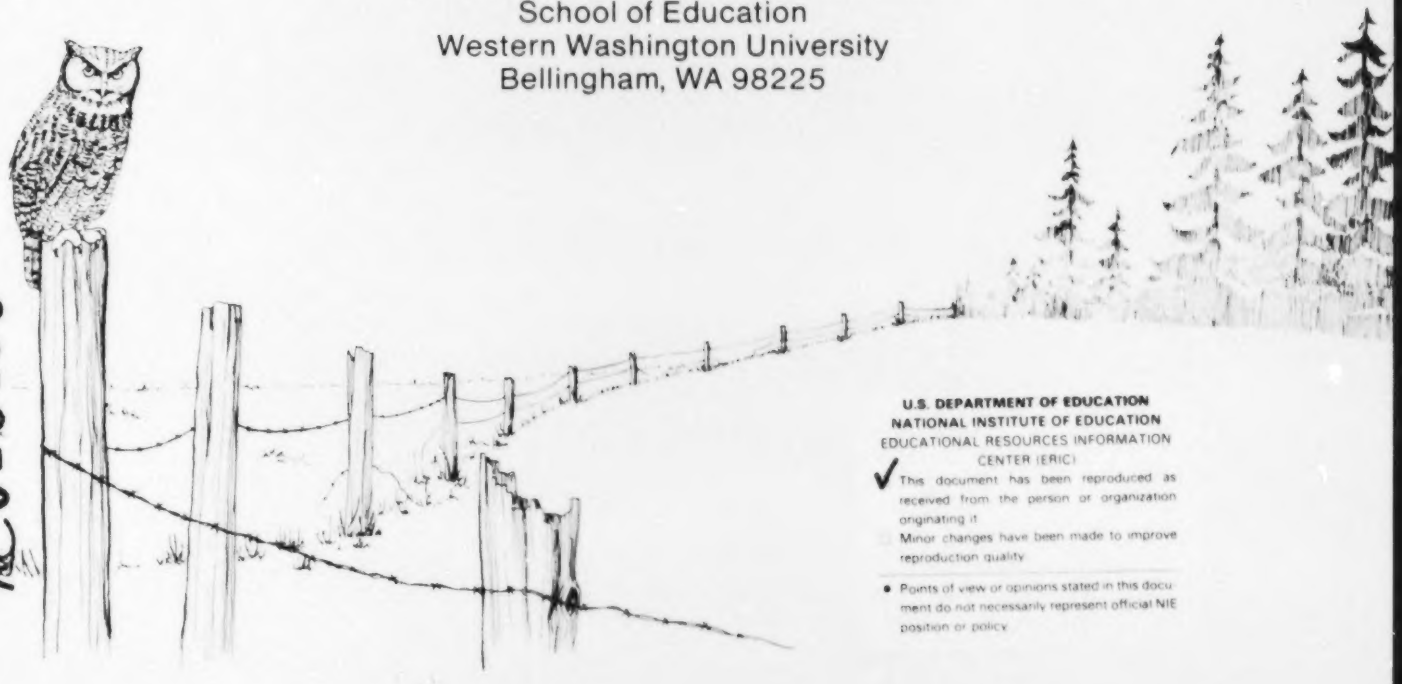

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# ESTABLISHING AN EMPIRICALLY DETERMINED NATIONAL RURAL EDUCATION RESEARCH AGENDA

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(This document is based on a study reported in depth in a February 1985 publication of the National Rural Development Institute entitled, "Establishing a National Rural Education Research Agenda," authored by Dr. Helge. It was developed specifically for a June 1985 presentation to the U. S. Department of Education Intra-agency Committee on Rural Education.)

## EXECUTIVE SUMMARY

This report synthesizes the first comprehensive national effort to derive an empirical data base for establishing rural education research priorities. A geographically representative national sample of 461 rural education researchers and practitioners contributed to this effort. The study involved rating 46 research questions and prioritizing 13 themes and concluded with a cluster analysis. Nine research clusters were identified and were rank ordered as listed below:

Rural School Effectiveness
Governance and Finance Issues
Staff Training Needs; Advanced Technologies as Resources
Teaching Styles and Incentives
Field-Based Personnel Preparation
Preservice Preparation (ethical issues, curriculum, methods, logistics)
Personnel Recruitment and Retention
School-Community Interaction
Rural vs. Non-rural Factors

A key strength of the entire analysis is the homogeneity of responses and prioritizations. Although personal research interests varied, as would be expected, rural practitioners and researchers across the country clearly agreed when prioritizing the importance of the clusters of research issues for the field of rural education.

The research agenda study generated long and short-range goals for policy and practice at all levels. This document relates implications of the study for the Federal Government, relevant state agencies, higher education institutions, rural schools and students, and data dissemination.

This study was conducted by the National Rural Education Research Consortium, which is composed of rural researchers and practitioners representative of the United States. Through formal and informal linkage systems, research needs are identified and relevant studies are facilitated by the Consortium. (For example, expertise, data pools, and other research elements are shared; data samples are bartered; literature is reviewed; and research designs are collaboratively reviewed.)

# ESTABLISHING AN EMPIRICALLY DETERMINED NATIONAL RURAL EDUCATION RESEARCH AGENDA

## Introduction

This document reports on the first comprehensive national effort to derive an empirical data base for establishing rural education research priorities. Rural schools comprise the majority (67%) of the nation's school systems and are extremely diverse.

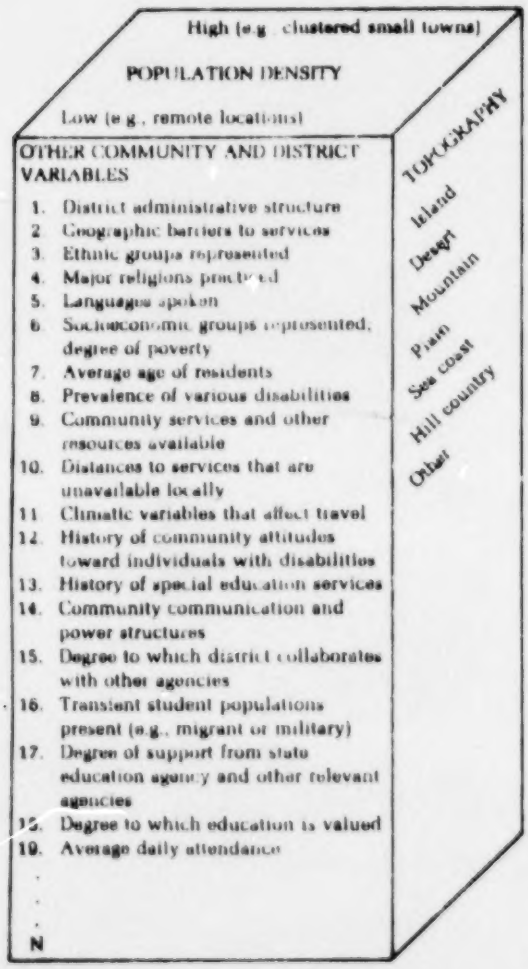
Rural schools experience distinct educational environments and have unique strengths and weaknesses. For example, rural areas have much higher poverty levels than nonrural areas, and rural schools serve greater percentages of handicapped children. (Helge, 1984). Even though rural populations are increasing, their tax bases are not. Thus, rural schools must contribute greater percentages of their local resources for education than do their nonrural counterparts. Rural services cost more than similar services in urban areas because of the transportation requirements of remote/sparsely populated areas and the unavailability of many specialized resources. On the positive side, rural America still has a relatively high trust factor, close family ties, and a "sense of community." In fact, rural citizens frequently are willing to volunteer to perform services for schools.

The diversity of rural school subcultures is significant. For example, the geographic range includes remote islands and deserts as well as small clustered communities; an economic range from stable classic farm communities to depressed lower socioeco-

nomic settings and high growth "boom or bust" communities; and a range of population sparsity from isolated one-room school districts to schools located in small clustered towns or surrounded by other small districts. Figure 1 below illustrates this diversity. Each of the variables listed has individual ramifications for educational service delivery. (For example, the administrative structure has implications for securing extra-school resources--it is typically easier for a district that is part of an intermediate unit to obtain specialized services than it is for a single isolated district.)

FIGURE 1

Dimensions of the Diversity of Rural School Systems


High (e.g. clustered small towns)
POPULATION DENSITY
Low (e.g., remote locations)
OTHER COMMUNITY AND DISTRICT VARIABLES
1. District administrative structure
2. Geographic barriers to services
3. Ethnic groups represented
4. Major religions practiced
5. Languages spoken
6. Socioeconomic groups represented, degree of poverty
7. Average age of residents
8. Prevalence of various disabilities
9. Community services and other resources available
10. Distances to services that are unavailable locally
11. Climatic variables that affect travel
12. History of community attitudes toward individuals with disabilities
13. History of special education services
14. Community communication and power structures
15. Degree to which district collaborates with other agencies
16. Transient student populations present (e.g., migrant or military)
17. Degree of support from state education agency and other relevant agencies
18. Degree to which education is valued
19. Average daily attendance
.
.
.
N
TOPOGRAPHY
Island
Desert
Mountain
Plain
Sea coast
Hill country
Other

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As depicted in Figure 1, two key variables are population density ( e.g., is there an adequate number of students with a given need so that a district can afford to hire a specialist in vocational or special education) and topography (e.g., does a mountain with untraversable roads at certain times of the year inhibit transportation of services to students). Interaction of these two dimensions with the "other community and district variables" dimension further individualizes a district. Change in any variable in any of the three dimensions further differentiates a given community from others. Because this is an open model, the number of possible types of rural communities is infinite [...N].

The Need for Quality Rural Education Research

The dramatic diversity of rural schools and their unique needs support the imperative need for quality rural education research. This research is required if educators are to make sense of the diversity and to develop content related educational curricula and administrative procedures .

One of the most significant obstacles to thoroughly assessing the effectiveness of rural education has been the absence of a consistently applied definition of "rural" among federal agencies, educators, and professional organizations. The inadequacies of data available to compare rural and urban districts is partially attributed to the problem of defining rural education.

Most federal agencies have had no definition or requirements for gathering data with regard to rural performance versus non-rural performance. Data on rural schools collected by the

National Center for Education Statistics (NCES) have frequently been summarized with data from large school districts. Historically, data for districts enrolling fewer than 300 students were considered unimportant and were completely deleted. This occurred in spite of the fact that 25% of the operating public school districts in the U. S. enroll fewer than 300 students each (Williams and Warf, 1978). The NCES did not initiate processes to report data on districts with fewer than 300 students until 1983.

The inclination of many data-gathering groups has been to define "rural" solely by using population figures. Unfortunately, various data collection agencies and studies have used different definitions in studying rural school populations, depending on the types of data being collected, the purposes for data collection, and staff and resources available.

A common definition has been to define a rural school district as one having fewer than 1,000 students, although figures as high as 2,500 have frequently been used. Population-based definitions of "rural" are problematic. For example, if the local education agency (LEA) being classified is a large county school district, it may have a larger enrollment than 1,000 or even 2,500 but still be very rural because of the sparsity of its population. However, strictly defining a rural district as fewer than 1,000 or even 2,500 students may inadvertently include nonrural areas. A population per square mile definition is more functional even though total geographic square miles may differ.

The 1980 Census defined "rural" as:

> All persons living outside urbanized areas in the open country or in communities with less than 2,500 inhabitants. It also includes those living in areas of extended cities with a population density of less than 1,000 inhabitants per square mile.

This definition contains ambiguous terminology (i.e., "outside urbanized areas in the open country") and does not offer a satisfactory context for defining a rural school district. In fact, this definition subsumes many nonrural areas.

The modified census definition below has been successfully field tested in national rural education research conducted since 1978.

> A district is considered rural when the number of inhabitants is fewer than 150 per square mile or when located in counties with 60% or more of the population living in communities no larger than 5,000 inhabitants. Districts with more than 10,000 students and those within a standard metropolitan statistical area (SMSA), as determined by the U. S. Census Bureau, are not considered rural. (Helge, 1981).

Partially because of the problems outlined above with defining "rural," little data collection occurred concerning rural education until the late 1970's. Urban service delivery models have historically been recommended and unsuccessfully applied to rural schools. Practices successful in one specific type of rural subculture have also been transported, without adaptation, to other rural subcultures and have failed.

## Need for a Study to Determine a National Rural Education Research Agenda

It is clear from the above that a comprehensive data base for rural education is needed. Generalizable rural samples are difficult to obtain (e.g., because of remote locations, uniqueness of each rural area, transportation difficulties, and attributes such as resistance to outsiders). Yet it is felt that rural education will best be enhanced when sound studies have been conducted ascertaining "what works" in given rural subcultures.

The U. S. Department of Education has become increasingly concerned about the effectiveness of rural schools and has committed resources to improve rural education. One aspect of the Department's efforts has been a search by its Intra-Agency Committee on Rural Education to expand the data base of rural education research and to identify a national rural education research agenda. This is consistent with the Department's official policy established in August of 1983 stating that rural education should begin to receive an equitable share of the information, services, assistance and funds available from and through the Department of Education and its programs (as noted in the August 23, 1983 report of the U. S. Secretary of Education).

Empirical data from which to determine rural education research priorities have been nonexistent. This document reports results and implications of the first study designed to derive a data base for establishing research priorities.

## Methodology of the Study

The primary objective of the study was to ascertain research

priorities among rural educators, both in special and general education, in this country. The second purpose was to determine if there were differences in respondents' research priorities associated with regions of the country, types of positions held, or types of employing institutions.

The study was conducted by the National Rural Education Research Consortium. The Consortium is composed of rural researchers and practitioners representative of the United States and provides formal and informal linkage systems through which research needs are identified and relevant studies are facilitated. (For example, expertise, data pools, and other research elements are shared; data samples are bartered; literature is reviewed; and research designs are collaboratively reviewed.)

The Consortium was initiated in 1982 and "piggybacks" its meetings with related national rural education-related activities. The questionnaire for this study was designed after 46 research questions and issues were delineated by a meeting of the Consortium (in conjunction with the U. S. Department of Education-sponsored national rural education conference in June of 1984). This meeting involved a geographically representative body of rural practitioners and university faculty, regional resource personnel, and state education agency personnel interested in rural education research.

Thirteen themes of research interest were generated from the 1978-84 work of the National Rural Project (funded by the U. S. Department of Education) and during 1984 meetings of the Consortium. The themes varied from teacher training methodologies to addressing rural personnel attrition and shortage areas to local

governance issues.

Using these 13 themes as a framework, 46 research questions were generated during the June 1984 meeting of the Consortium. The next logical task was to prioritize the 46 research questions to identify which areas were perceived to be of greatest importance to the field of rural education. Questionnaire designers assumed that researchers and practitioners who responded might differ in their degree of personal interest about specific research questions and the importance of each question to the field of rural education. Thus, the instrument was designed to force respondents to differentiate between these two areas. Each respondent rank ordered the 13 themes (from highest to lowest interest/importance), using two columns.

Respondents scored each of the 46 research questions generated by the Consortium, using a five-point scale ranging from "unimportant" to "critically important." Two separate columns were designated for each respondent to note how important it is that research be conducted on each topic (by someone). The first column clearly asked for the respondent's "personal research interest," and the second column asked the "importance of research for improving rural education."

Approximately 1,500 questionnaires were mailed to potential respondents (a geographically representative mailing list of rural educators, administrators and researchers), and a total of 461 questionnaires were returned.

The 461 returned questionnaires were coded according to the position of each respondent, the place of employment (insti u-

tion), federal region, and whether the person's primary training and experience had been in general or special education. Analyses were then conducted to delineate significant differences in response to these categories.

The next task involved clustering the research questions/issues so that empirical research themes could be determined. The cluster analysis technique differentiated "importance to the field" and "personal interest," and nine research clusters containing the 46 research questions were determined by this computer analysis.

## Results of the Study

### Respondents

A total of 273 of the respondents were general educators and 188 were special educators. Public schools employed 180 of the respondents, colleges and universities, 144, and other agencies (e.g., state education agency, education service unit, and research and development centers), 137.

### Rankings of Clusters (Themes)

Table I below lists the nine clusters that emerged from this empirical analysis.

The means of all the questions within a cluster were gathered and a mean of these means was computed, thereby obtaining a mean score for each cluster. The clusters were then ranked according to these scores, and the subsequent discussion of the questions is based on these clusters and their rankings.

TABLE I

RESEARCH CLUSTERS RANKED BY "IMPORTANCE TO THE FIELD"

| | Cluster | Ranking of Means (Scale 1-5) |
|---|---|---|
| I. | Rural School Effectiveness | 3.78 |
| II. | Governance and Finance | 3.56 |
| III. | Staff Training Needs; Technology as a Resource | 3.52 |
| IV. | Teaching Styles and Incentives | 3.50 |
| V. | Field-Based Personnel Preparation | 3.39 |
| VI. | Preservice Preparation (ethical issues, curriculum, methods, logistics) | 3.34 |
| VII. | Personnel Recruitment and Retention | 3.26 |
| VIII. | School-Community Interaction | 3.26 |
| IX. | Rural vs. NonRural | 3.13 |

Table II depicts the top three questions related to each cluster in "importance of research to the field." The mean ranking of each question by "importance to the field" is also depicted. This abbreviated format is designed to illustrate some of the most critical rural education research questions identified. Additional studies are currently underway to determine individuals interested in investigating specific research questions related to each cluster. Groups of individuals with similar interests will be linked by the National Rural Education Research Consortium.

TABLE II

Questions Related to Each Cluster*

Cluster I. Rural School Effectiveness (Mean: 3.78)

1. How can we best measure the effectiveness of rural schools? (4.15)

2. What makes a rural school effective? How does this differ from criteria that make nonrural schools effective? (4.06)

3. What are qualitative and quantitative measures of effective school leadership in rural America? How are these different from those of nonrural settings? (3.80)

Cluster II. Governance and Finance (Mean: 3.56)

1. What impact do federal and state mandates have on rural school funding? (3.88)

2. What are the effects of various service delivery systems for special education? (3.81)

3. What are effective alternate financing systems for rural schools? (3.79)

Cluster III: Staff Training Needs; Technology as a Resource (Mean: 3.52)

1. How can rural factors such as low incidences of handicaps, transportation problems, and other elements be resolved through the use of new educational techno_ogy? (3.93)

2. What is the need for generalists to meet rural educational needs to serve a range of ages? (3.48)

3. What kinds of supervision,practicum facilities, and observation strategies are cost effective in various types of rural areas (e.g., remote areas versus small clustered towns, etc.)? (3.41)

*The three questions with the highest mean, in each cluster, are listed. Cluster VIII only lists two questions because only two were generated by respondents. The mean of each individual question is listed after the question.

Cluster IV: Teaching Styles and Incentives (Mean: 3.50)

1. What are effective ways of serving rural gifted students? How does one identify gifted rural students who are culturally disadvantaged? (3.80)

2. What are incentives for the development of innovative rural school programs? (3.76)

3. What are the incentives of pay for rural teachers and administrators? Should any rural pay incentives be developed (e.g., in the very smallest districts)? (3.53)

Cluster V: Field-Based Personnel Preparation (Mean: 3.39)

1. How can LEAs, regional service centers, and other organizations assist in rural practica and practica supervision? (3.53)

2. What is the cost effectiveness of using different techniques (given equivalent outcomes in rural preservice preparation)? (3.42)

3. When should videotape, laser discs, or other technologies be used in place of field-based experience in rural preservice preparation? (3.19)

Cluster VI: Preservice Preparation (ethical issues, curriculum, methods, logistics) (Mean: 3.34)

1. What technical and human skills and knowledge should be included in a rural training program? (3.82)

2. How can training programs balance the need to provide "state of the art" quality role models, practicum experience, etc., with the need to expose students to the realities of rural schools? (3.59)

3. How can preservice students be prepared to work with ethnic minority, bilingual, migrant, and other populations in rural areas? (3.41)

Cluster VII: Personnel Recruitment and Retention (Mean: 3.26)

1. What are the best procedures to recruit and retain rural special education staff? Regular education staff? (3.73)

2. What kinds of procedures used by business and other non-government and government agencies (e.g., Peace Corps) for training, recruiting, and retaining personnel could be used in rural preservice preparation? (3.03)

3. What specific education roles need to be filled in distinct geographic areas? Are certain handicapping conditions more prevalent in one area or another? (3.01)

Cluster VIII: School-Community Interaction (Mean: 3.26)

1. How can we secure greater community involvement in rural school systems? (3.60)

2. For what roles should local rural citizens/teachers be recruited? What roles should be filled by outsiders? (2.93)

Cluster IX: Rural vs. NonRural (Mean: 3.13)

1. What are impacts of local rural culture on learning and behaving? (3.67)

2. How do local school objectives and expectations differ from community and student expectations of rural areas? (3.31)

3. What non-schooling influences are significant for rural schools? (3.30)

## Implications of the Study

The research agenda study has generated long and short-range goals for policy and practice at all levels. Ramifications of the study are described below.

1. Implications for the Federal Government.

   The U. S. Department of Education has a legislative mandate to deliver an equitable share of the information, services, assistance, and funds available from and through the Department, to rural areas. (U. S. Secretary of Education's August 23, 1983, report.) Current services and fiscal allocations are not equitable. It is clearly the responsibility of the Federal Government to address this issue and find solutions to identified problems. Research should be supported which focuses on determining what constitutes "equity."

(Because increased funding is required to operate remotely located rural programs, "equal funding" frequently does not create "equity.") Research should also be funded to determine what would create equity (e.g., research assessing alternate tax and other structures) Federal resources which should be made available include technical assistance, collaborative data gathering, and information dissemination, as well as fiscal support.

Because the field now has an empirically determined national rural education research agenda, the Federal Government should support research efforts which relate to the prioritized research clusters.

The enhancement of rural education should be an interagency responsibility with significant involvement of the Department of Education. Congress has recognized that rural education involves all disciplines and that past approaches have been fragmented. Standard categories of education (e.g., elementary vs. secondary), do not reflect the way that educational services are delivered in many rural settings. A holistic approach should be implemented, and relevant agencies such as the Departments of Agriculture, Labor, Commerce, and Transportation should be involved. Thus, it is recommended that the various offices related to rural education form a consortium or partnership to fund research and demonstration efforts that holistically address issues in rural education.

The Federal Government should routinely and efficiently collect data so that rural vs. nonrural differences in funding and educational quality may be determined. Analysis should be feasible for even very small districts (e.g., those under 300 ADA).

The Federal Government should foster collaboration between universities, public schools, and state education agencies. This should include incorporation of wording in the authority for grants and contracts that will bring about interdisciplinary studies and other cooperative efforts.

2. Implications for Relevant State Agencies.

Two-thirds of all U. S. schools are rural, and current services and fiscal allocations are not equitable. Because each state has a significant rural population, all states should have an entity charged with the task of improving rural education. Over half of the states currently have a task force or other group appointed by the state's governor. These ad hoc groups or agencies typically concentrate on problem identification and should provide legislative and other action

recommendations for their state and for the Federal Government. State-level recommendations should be utilized by the appropriate Inter- and Intra-Agency Committees of the U. S. Department of Education.

3. Implications for Institutions of Higher Education.

Higher education personnel interested in rural education research should be linked with rural schools and practitioners for collaborative research projects. The research priorities established by this research agenda study should be considered when planning student theses and dissertations. Results of rural education research projects should become part of the content of university training programs.

4. Implications for Rural Schools and Students

Table II lists areas of questions which the 461 respondents study defined as critical for better understanding and improving rural school performance. The conducting of research related to this rural education research agenda will culminate in a sound data base for rural school improvement.

This study clearly indicated that policy makers (e.g., superintendents and state education agency staff) and policy implementors (e.g., higher education faculty, principals and teachers) tended to agree on priorities for rural research. This indicates that there are excellent opportunities for collaboration between public schools, universities, and state education agencies. Such collaboration should be actively facilitated. Collaborative efforts are much more essential in rural areas than in nonrural areas, and it is imperative to identify the most effective ways to cooperatively deliver services. (Thus, research must be related to policy making, administration, coordination, training, etc.) Projects designed to determine effective partnerships between rural schools and established rural delivery systems (e.g., county extension agencies), rural civic organizations, and the private sector should be actively fostered. Examples of this would be joint projects to develop new combinations of interdistrict cooperative models, studies to determine how to build stronger rural school-community-private sector partnerships, and investigations of alternate uses of personnel.

Just as urban models are generally inappropriate for rural settings, there is no one rural service delivery model effective in a number of rural subcultures. Research studies should profile rural school practices that are effective in specific rural subcultures (e.g., socioeconomic, geographic population spar-

sity, and other bases).

Research projects which are applied in nature and emphasize demonstrations of effective processes and dissemination of findings useful to rural practitioners should be prioritized.

5. Implications for Data Dissemination.

Options for data dissemination using advanced technologies should be fully explored (e.g., electronic networking). Research projects and processes that involve the use of advanced technologies for solving problems of rural education and for conducting research in isolated rural communities should be facilitated.

Current practices incorrectly assume that a rural school will ask for information/data relevant to its specific subculture. An alternate model should be proposed for information dissemination. The sharing of applied research which emphasizes findings relevant to rural practitioners should be prioritized.

Linkages between rural practitioners and researchers should be continuously encoraged in research design and implementation. The National Rural Education Research Consortium will continue to facilitate appropriate studies and link consortium members by research skill and interest area.

Summary

This document reported the results of the first comprehensive national effort to derive an empirical data base for establishing rural education research priorities. Implications of the study for the Federal Government, relevant state agencies, higher education institutions, rural schools and students, and data dissemination were shared.

A key strength of the entire analysis is the homogeneity of responses and research prioritizations. Although personal research interests vary, as would be expected, respondents in this study were clearly in agreement. Analysis of variance strongly indicated that rural practitioners and researchers across the

country were in agreement in prioritizing the importance of the clusters of research issues to the field of rural education.

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